

What is claimed is:

1. A method of treating patients suffering from a movement disorder, which comprises the step of stimulating a patient's vagus nerve with an electrical pulse signal applied directly or indirectly thereto at a location in the immediate vicinity of the patient's diaphragm, including selectively programming electrical and timing parameters of said electrical pulse signal according to a predetermined therapy regimen for alleviating the disorder.
2. The method of claim 1, wherein the step of stimulating the patient's vagus nerve comprises performing unilateral supra- or sub-diaphragmatic stimulation of either the left branch or the right branch of the vagus nerve.
3. The method of claim 1, wherein the step of stimulating the patient's vagus nerve comprises performing bilateral supra- or sub-diaphragmatic stimulation of the left and right branches of the vagus nerve.
4. The method of claim 1, including implanting at least one signal generator and electrodes operatively coupled thereto for generating and applying said electrical signal to the vagus nerve at said location.
5. The method of claim 1, including implanting at least one signal generator and

electrodes operatively coupled thereto for generating and applying said electrical signal internally to a portion of the patient's nervous system other than the vagus nerve to indirectly stimulate the vagus nerve at said location.

6. The method of claim 1, wherein said stimulating electrical signal comprises a sequence of electrical pulses.

7. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal to the vagus nerve at a location in a range of from about two to about three inches above or below the patient's diaphragm.

8. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal intermittently, in alternating on and off intervals according to a predetermined duty cycle.

9. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal continuously.

10. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal according to the patient's circadian rhythm.

11. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal bilaterally and synchronously to both branches of the vagus nerve.

12. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal non-invasively to a portion of the patient's nervous system other than the vagus nerve to indirectly stimulate the vagus nerve at said location.

13. The method of claim 1, including detecting random, uncoordinated involuntary movement of the patient characteristic of the disorder, and thereupon triggering application of said stimulating electrical pulse signal to the vagus nerve at said location.

14. The method of claim 1, including programming for initiation of the electrical stimulation by the patient upon sensing a symptom characteristic of onset of the disorder, to trigger application of said stimulating electrical pulse signal to the vagus nerve at said location.

15. A method of treating patients suffering from involuntary movement disorders by stimulating a selected cranial nerve of the patient with an electrical signal applied to induce a signal up the nerve toward the brain from a location in the vicinity of the patient's diaphragm, including programming electrical and timing parameters of said electrical signal to ameliorate said disorder.

16. The method of claim 15, including applying said electrical signal directly to the selected cranial nerve at a location substantially immediately above or below the diaphragm.

17. The method of claim 15, including applying said electrical signal internally to a portion of the patient's nervous system remote from the selected cranial nerve to indirectly stimulate the selected cranial nerve at said location.

18. The method of claim 15, wherein said stimulating electrical signal comprises a sequence of electrical pulses.

19. The method of claim 15, wherein the step of stimulating comprises applying said electrical signal to the selected cranial nerve at said location in a range of from about two to about three inches above or below the patient's diaphragm.

20. The method of claim 15, including detecting involuntary movement of the patient characteristic of the disorder, and thereupon triggering application of said stimulating electrical signal to the selected cranial nerve at said location.

21. The method of claim 15, including programming for initiation of the stimulating electrical signal by the patient upon sensing a symptom characteristic of onset of the movement disorder, to trigger application of said stimulating electrical pulse signal to the

selected cranial nerve at said location.

**22.** Apparatus for treating patients suffering from movement disorder, comprising a pulse generator sanctioned by government authority for implantation in a patient together with electrode means to treat said disorder by stimulation of a selected cranial nerve of the patient with a predetermined sequence of electrical impulses from said pulse generator applied to the selected cranial nerve at a location in a range from about two to about three inches above or below the patient's diaphragm, for alleviating symptoms of the movement disorder in the patient.

**23.** The apparatus of claim 22, wherein said pulse generator is programmable to enable physician programming of the electrical and timing parameters of said sequence of electrical impulses.

**24.** The apparatus of claim 22, wherein the selected cranial nerve is the vagus nerve, and said electrode means comprises at least one nerve electrode for implantation on the patient's vagus nerve for direct stimulation thereof at said location.

**25.** The apparatus of claim 24, wherein said electrode means comprises a pair of nerve electrodes for implantation of a respective one of said pair on left and right branches of the patient's vagus nerve for direct bilateral stimulation thereof at said location.

**26.** The apparatus of claim 22, wherein said electrode means comprises at least one electrode for implantation internally to a portion of the patient's nervous system remote from the selected cranial nerve to indirectly stimulate the selected cranial nerve in the vicinity of said location.

**27.** The apparatus of claim 22, including a sense signal analysis circuit associated with the pulse generator for analyzing a signal produced by a sensor in response to movement of the patient to assess whether the patient's movement is random, uncoordinated and involuntary characteristic of the movement disorder being treated, and, if it is, for activating the pulse generator to stimulate the selected cranial nerve in the vicinity of said location.

**28.** The apparatus of claim 22, including means associated with the pulse generator for enabling patient activation of the pulse generator to stimulate the selected cranial nerve in the vicinity of said location.